

## PATENT SPECIFICATION



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225,254

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## COMPLETE SPECIFICATION.

### Improvements in or relating to Fastenings for Railway Carriage and other Doors.

We, GEORGE ALFRED FARMER, of 36, Goodman Street, Burton-on-Trent, a British subject, and ROBERT WRIGHT, of 212, Horninglow Road, Burton-on-Trent, a British subject, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention comprises certain improvements in or relating to fastenings for railway carriage and other doors, and more particularly refers to fastenings of the type wherein the whole of a series of doors may be simultaneously locked or unlocked by electrical means, and wherein electrical indicator devices are provided for indicating when the doors have been thus locked or unlocked.

In fastenings of this type, a lock has been proposed having an electro-magnet acting upon a hinged armature which is loosely attached to a sliding bolt, the armature having a bolt-releasing spring attached to its end remote from the pivot.

According to the present invention the door fastening includes a series of electrical locking bolt devices each comprising, in combination, a casing, an electro-magnet mounted therein, a pivotted lever constituting the armature of the electro-magnet, a spring connected to the pivotted end of the lever and normally holding the armature in open position relative to the electro-magnet, a sliding bolt mounted within the casing so as to project through the side thereof for engagement within a socket in the door, and a link and roller contact connection between the lever and the sliding bolt.

In order that this invention may be clearly understood and readily carried into practice, reference may be had to

the appended explanatory drawing, which is a detail elevation of one of the electrical locking bolt devices.

In carrying the invention into effect, an electrical locking bolt device is associated with each door, and these locking bolt devices are arranged in circuit with a source of electrical power, which may be battery, accumulator, or dynamo, and also in circuit with an indicator board, which indicator board may be combined with the usual bell or other audible alarm.

In constructing the electrical locking bolt device, a casing  $c^1$  is suitably mounted adjacent the door, and a sliding bolt  $f$  is mounted within the casing so as to project through the side and enter a socket in the door. This bolt  $f$ , having a terminal roller or runner  $f^1$ , is connected by a link  $g$  to a lever  $h$  pivotted at  $h^1$  and having an adjustable screw stop  $i$ , this lever  $h$  constituting the armature of an electro-magnet  $j j$ , and being normally maintained in its in-operative position by means of a spiral spring  $k$  connected at one end to the extremity of the lever and anchored at the other end to a bracket  $l$  which provides a support for the lever  $h$  and electro-magnet  $j j$ .  $m$  are the cables connected to the coils of the electro-magnets  $j j$  of the various locking bolt devices, to complete the circuits through the indicators and through the source of electrical power.

The operation of the apparatus is as follows:—On the whole of the doors being closed, a suitable main switch is closed, this causing the series of electro-magnets  $j j$  to be energised and to attract the series of pivotted levers  $h$  and thereby project the series of sliding bolts  $f$  outwardly to simultaneously lock the whole of the doors, and to afford visible indication of such locking on the indicator

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board. On the main switch being subsequently opened, the electro-magnets *j j* are de-energised, causing the series of bolts *f* to be retracted by tension of their respective springs *k*, thereby simultaneously unlocking the whole of the doors. Local switches are provided in the electrical circuits to permit of independent actuation of the locking bolt device of any particular door, and a key switch may be fitted in connection with each lock if desired. In case of a dynamo being used as the source of electrical power, the locking and unlocking operations are automatically effected.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. Door fastenings of the type referred to, and including a series of electrical

locking bolt devices each comprising, in combination, a casing, an electro-magnet mounted therein, a pivotted lever constituting the armature of the electro-magnet, a spring connected to the pivotted end of the lever and normally holding the armature in open position relative to the electro-magnet, a sliding bolt mounted within the casing so as to project through the side thereof for engagement within a socket in the door, and a link and roller contact connection between the lever and the sliding bolt.

2. Fastenings for railway carriage and other doors, substantially as herein described and illustrated.

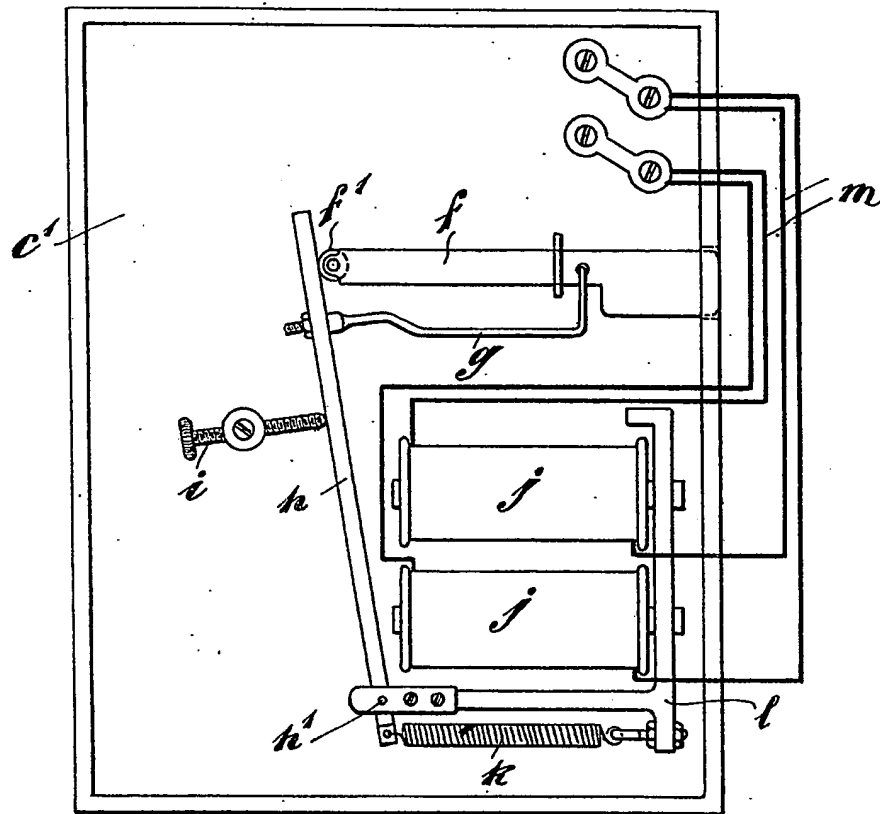
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1 SHEET

[This Drawing is a reproduction of the Original on a reduced scale.]



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